



PROPOSED PLAN / DRAFT REMEDIAL ACTION PLAN
FORMER MARE ISLAND NAVAL SHIPYARD
Investigation Area F1
Vallejo, California



September 2017

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- Words in **bold** type are defined in the Glossary on page 15

U.S. NAVY ANNOUNCES PROPOSED PLAN/ DRAFT REMEDIAL ACTION PLAN

The Navy encourages the public to provide comments on its proposed cleanup plan for Investigation Area F1 (IA F1) at the former Mare Island Naval Shipyard (MINS), Vallejo, California (Figure 1). The Navy has worked with the California Environmental Protection Agency Department of Toxic Substances Control (DTSC), the San Francisco Bay Regional Water Quality Control Board (Regional Water Board), and the U.S. Environmental Protection Agency (EPA) to evaluate cleanup options for IA F1 including the proposed cleanup plan.

INTRODUCTION

The Navy is responsible for investigating and remediating contamination that resulted from historical Navy operations at IA F1 at the former Mare Island Naval Shipyard (MINS). These investigations were completed according to the requirements of the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**. The Navy, in consultation with the regulatory agencies, will select a final cleanup action for the site in the **Record of Decision (ROD)/Final Remedial Action Plan (RAP)** after all information submitted during the public comment period has been reviewed and considered. The Navy may modify its proposed cleanup plan or select another cleanup plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all of the alternatives. See the instructions on how to comment in the text box on page 12.

This **Proposed Plan (PP)/Draft Remedial Action Plan (RAP)** summarizes the remedial alternatives the Navy evaluated and explains the basis for identifying the preferred alternatives to address contamination at IA F1. The Navy evaluated cleanup alternatives for uplands and wetlands, which are summarized starting on page 7. The Navy proposes to select Alternative U3 to address contamination in the uplands and Alternative W3 to address contamination in the wetlands. Alternatives U3 and W3 include:

- Excavation and off-site disposal of contaminated soil and sediment in selected areas.
- **Institutional controls (ICs)** to restrict specific land uses and activities.

Public comments will be accepted from September 13, 2017 through October 13, 2017. Public comments can be submitted via mail, e-mail, or fax throughout the comment period. A public meeting will be held at 7:00 PM on September 28, 2017, at the Mare Island Conference Center in Vallejo, California. Members of the public may submit written and oral

Public Comment Period

September 13, 2017 to
October 13, 2017

You are invited to review and comment on this Proposed Plan during the 30-day public comment period above.

Public Meeting

September 28, 2017 7:00 pm
Mare Island Conference Center

375 G Street, Vallejo, California

This meeting is an opportunity for you to hear more about the Proposed Plan, ask questions, and to give verbal and written comments in person.



Figure 1. Location Map

comments on this PP/Draft RAP at the public meeting. Please see page 12 for more information.

THE CERCLA PROCESS

The Navy is addressing the contamination at IA F1 pursuant to CERCLA and the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**. The Navy is issuing this PP/Draft RAP as part of its public participation responsibilities under CERCLA and the NCP. This PP/Draft RAP has been prepared to highlight key information and conclusions from the Navy's investigations of potential contamination at IA F1 and evaluations of cleanup alternatives presented in the final **Feasibility Study (FS)**, issued in 2015. The FS and other documents that provide detailed information about site conditions and Navy activities are available for public review at the locations listed on page 10.

The flowchart (Figure 2) illustrates the status of IA F1 in the CERCLA process. The Navy's preferred alternatives to address contamination at IA F1 are presented in this PP/Draft RAP.

The ROD/Final RAP will identify the selected cleanup remedy, identify the **remedial action objectives (RAOs)** and remediation goals (RGs), and outline performance

standards that must be met before cleanup is complete. After the ROD/Final RAP, the remedial design (RD) and **remedial action (RA)** are the next steps in the CERCLA process and involve planning and implementing the selected remedial alternative.

SITE BACKGROUND

Mare Island is located within the incorporated boundaries of the City of Vallejo in Solano County, California, northeast of San Francisco (Figure 1). Mare Island is bordered by Highway 37 to the north, Mare Island Strait (Napa River) to the east, Carquinez Strait to the south, and San Pablo Bay to the west. The Navy began shipbuilding operations at Mare Island in 1854.

During World War II, the former MINS reached peak capacity for shipbuilding, repair, overhaul, and maintenance. Due to decreasing Navy needs in the postwar environment, shipyard activity decreased, and the former MINS was closed on April 1, 1996.

IA F1 comprises about 62 acres on the southeastern shore of Mare Island. Between 1857 and 1975, the primary purpose of IA F1 was to manufacture, store, and process munitions used on Naval ships.

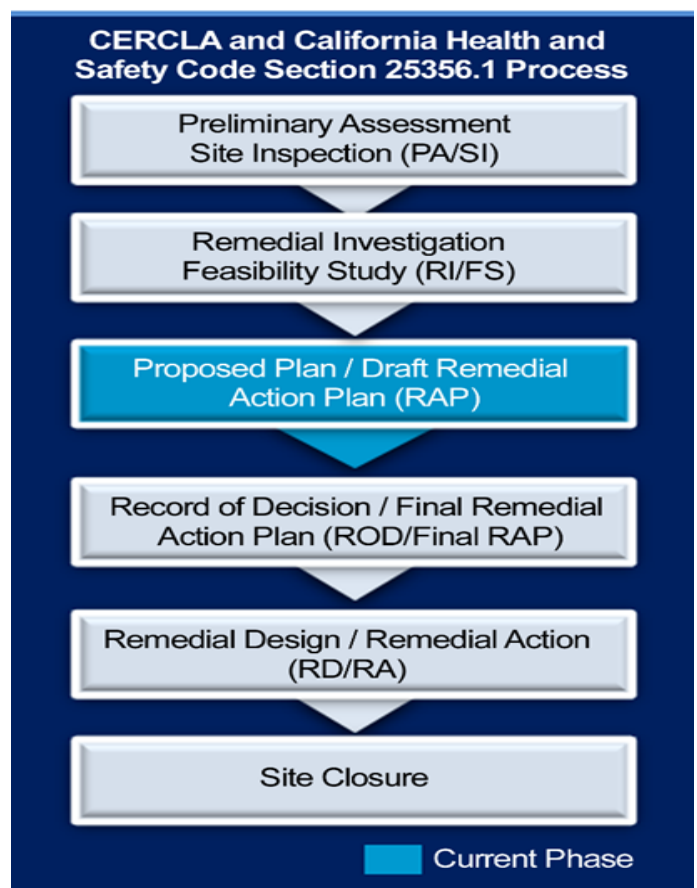


Figure 2. The CERCLA and California Health and Safety Code Section 25356.1 Process

IA F1 was divided into seven subareas for evaluation (Figure 3). Subareas 1 through 5 and 7 are considered upland areas, while Subarea 6 is considered tidal wetlands.

INVESTIGATIONS AND REMOVAL ACTIONS

Environmental characterization of the former MINS has been conducted since 1983. Soil, sediment, soil gas, and groundwater at IA F1 were sampled during previous investigations and analyzed for a comprehensive suite of chemicals including **volatile organic compounds (VOCs)**, **semi-volatile organic compounds (SVOCs)**, energetic compounds, **polycyclic aromatic hydrocarbons (PAHs)**, **polychlorinated biphenyl (PCB) aroclors**, **total petroleum hydrocarbons (TPH)**, and metals.

A summary list of key investigations and reports follows:

- Initial Assessment Study, 1983
- Environmental Baseline Survey, 1993
- Basewide Underground Storage Tank Investigations, 1988 to 1998
- Basewide Radiological Survey Report, 1996
- Remedial Investigation, Operable Unit 3, 1996
- Group II/III Accelerated Study, 1997 and 2000
- Basewide Sampling for Confirmation of PCBs, 1997 and 2004
- Additional Sampling at IA F1, 2003
- Soil Gas Sampling at IA F1 and IA F2, 2004
- Data Summary Report for Additional Site Investigation, Soil and Groundwater Sampling at IA F1, 2007
- Data Summary Report for USTs A-225 and A-267, Soil and Groundwater Sampling at IA F1, 2007
- Monitored Natural Attenuation Study at Investigation Area F1, 2008
- **Time-Critical Removal Action (TCRA)** Completion Report, Installation Restoration 04 and Vicinity, 2009
- Remedial Investigation Report Installation Restoration Program Sites Within Investigation Area F1, 2012
- Feasibility Study for Investigation Area F1, 2015

These documents, as well as other reports completed during the previous steps, are available for review in the locations listed on page 10.

In 2007 and 2008, a TCRA was conducted to remove abrasive blast material also known as sand blast material (SBM), in Subarea 1 of IA F1. The objective was to reduce risks to human health and the environment to the extent practical. During the TCRA, approximately 28,760 cubic yards of SBM were excavated from 13 locations in IA F1 and an adjacent site and disposed of as subgrade material under an engineered landfill cap system at IA H1, located northwest of the site on Mare Island.

The **Remedial Investigation (RI)** characterized the nature and extent of contaminants resulting from past activities at the site, assessed the risk to both human and ecological **receptors**, and provided information to support development and evaluation of cleanup alternatives in the FS.

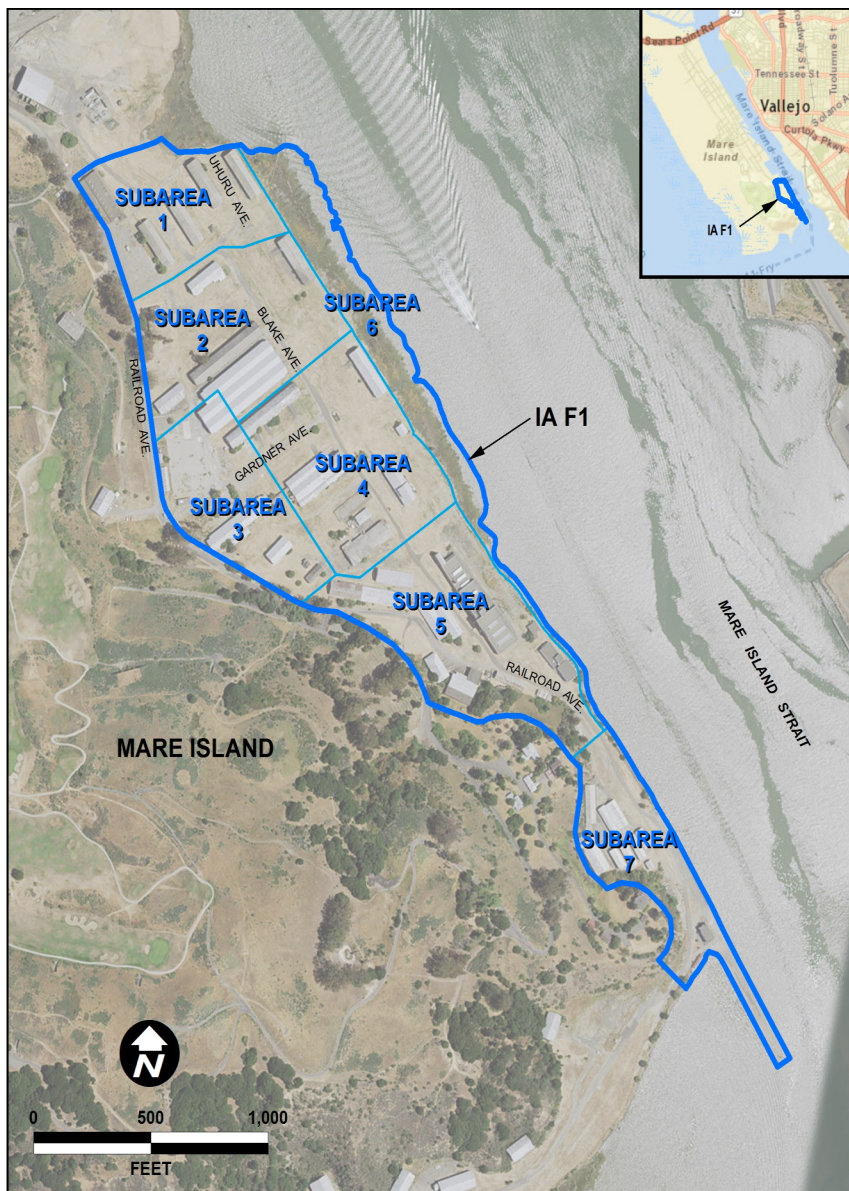


Figure 3. IA F1 Boundary and Subareas

CURRENT AND FUTURE USE

IA F1 is currently not used. Maintenance workers from the Navy, the City of Vallejo, and Island Energy visit the site to check electrical substations and towers and to perform basic site maintenance. The Navy is currently maintaining IA F1 as an industrial area by clearing vegetation periodically for fire protection.

Future planned land use for IA F1 is industrial for Subareas 1 through 4 and part of Subarea 5, open space conservation area for Subarea 6, and recreational for Subarea 7 and the remainder of Subarea 5 (Figures 3 and 4).

NATURE AND EXTENT OF CONTAMINATION

Sources of contaminants include SBM, solvents, oils, fuels, paint, and other chemicals stored and used at the site.

Release mechanisms include spills or leaks from equipment, vehicles, and tanks, and stockpiles of SBM.

Soil, sediment, soil gas, and groundwater were evaluated during the RI. Contaminants identified at IA F1 include:

- Metals

- VOCs and SVOCs
- TPH and solvents
- PCBs

SITE RISK DETAILS

Risk is the likelihood or probability that a hazardous chemical when released to the environment will cause effects (such as cancer or other illnesses) to exposed humans or wildlife. The Navy evaluated the risk to humans and wildlife from exposure to site soil, sediment and chemicals evaporating from groundwater.

The RI risk assessment concluded that groundwater and soil gas throughout the site, and soil for Subareas 1, 2, 3, and 7 were not media of concern for planned future land use scenarios. Risk assessment results for these subareas concluded that there was no unacceptable risk to human health or ecological receptors; therefore, no further evaluation or remedial action was recommended for Subareas 1, 2, 3, and 7.

The Navy determined that shallow groundwater meets the criteria for an exception to sources of drinking water policy for municipal and domestic uses and the Regional Water Board concurred. Therefore the groundwater ingestion pathway is incomplete and risk from drinking shallow groundwater was not evaluated.

HUMAN HEALTH RISK ASSESSMENT

The Navy conducted a **human health risk assessment (HHRA)** for IA F1 in accordance with Federal and State guidelines. An HHRA estimates the likelihood of health problems occurring if no cleanup action were taken at a site. To assist with risk management decisions, EPA has established risk ranges presented in Table 1 to protect human health.

Because the planned use for IA F1 is mixed industrial, regional park, and open space conservation area, potential future human receptors include a future commercial industrial worker; a construction, maintenance, or utility worker who may work on the site; and recreational users visiting the regional park area.

The cancer and non-cancer risks calculated for Subareas 4, 5, and 6 are presented on Table 2. Lead and other metals are the primary contributors to risk at each subarea.

ECOLOGICAL RISK ASSESSMENT

A screening level **ecological risk assessment (ERA)** was performed to evaluate whether exposure to **chemicals of ecological concern (COECs)** resulted in unacceptable risk to upland and wetland plants, invertebrates, birds and

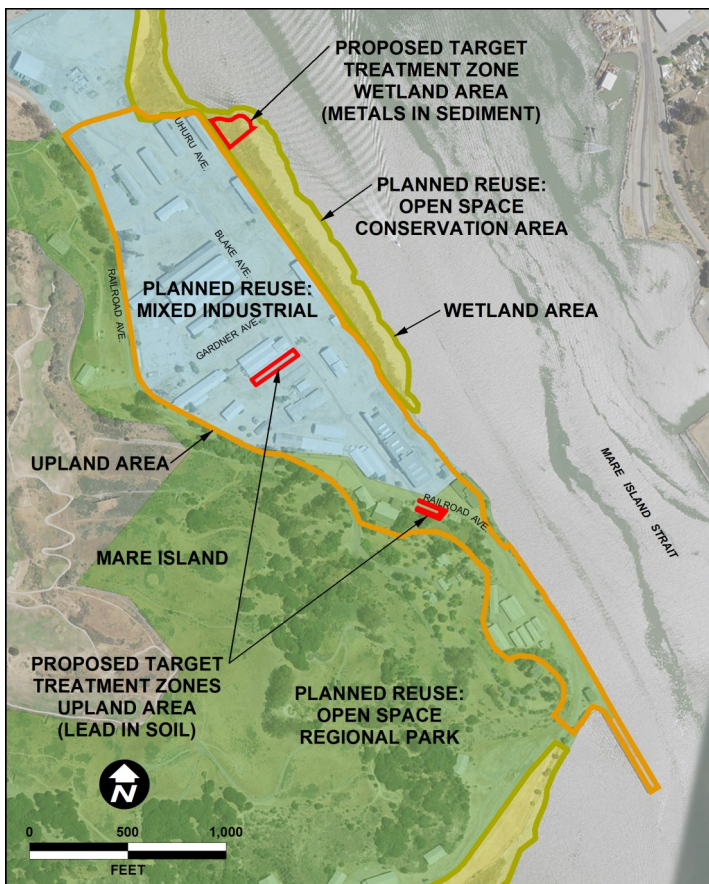


Figure 4. Upland and Wetland Future Use with Target Treatment Zones

Table 1. Risk Ranges to Protect Human Health

Health Risks	Unacceptable Risks	Generally Allowable Risks	Allowable Risks
Cancer	More than one additional cancer case in a population of 10,000 (greater than 10^{-4})	One additional cancer case in a population of 10,000 to one additional cancer case in a population of 1,000,000 (10^{-4} to 10^{-6})	Less than one additional cancer case in a population of 1,000,000 (less than or equal to 10^{-6})
Noncancer	A hazard index (HI) greater than 1	—	An HI less than or equal to 1

Table 2. Summary of Risk Results

IA F1 Subarea and Future Land Use ¹	HHRA Results ²			ERA Results
	Future Human Receptor (Soil Depth Interval in Feet Below Ground Surface)	Cancer Risk	Hazard Index ³	
4 Mixed Industrial	Commercial/Industrial Worker (0 to 2)	6×10^{-6}	0.2	No unacceptable risk to ecological receptors.
	Commercial/Industrial Worker (0 to 10)	5×10^{-6}	0.2	
	Construction Worker (0 to 10)	1×10^{-6}	1(0.4)	
	Hypothetical Resident (0 to 2)	2×10^{-5}	2 (1)	
	Hypothetical Resident (0 to 10)	2×10^{-5}	2 (0.95)	
5 Mixed Industrial/ Regional Park	Commercial/Industrial Worker (0 to 2)	2×10^{-6}	0.09	Unacceptable risk to ecological receptors from lead in the soil around Building A17.
	Commercial/Industrial Worker (0 to 10)	1×10^{-6}	0.1	
	Construction Worker (0 to 10)	5×10^{-7}	12 (11)	
	Hypothetical Resident ⁴ (0 to 2)	1×10^{-5}	1 (0.5)	
	Hypothetical Resident ⁴ (0 to 10)	1×10^{-5}	2 (0.9)	
6 Open Space/ Wetlands	Recreational User (0 to 2)	1×10^{-5}	0.5	Unacceptable risk to ecological receptors from copper, lead, and zinc.

Notes:

- 1 Risk assessment results for Subareas 1, 2, 3, and 7 concluded that there was no unacceptable risk to human or ecological receptors for the planned land use.
- 2 The Regional Water Board concurred with the Navy's determination that shallow groundwater at the site met the criteria for an exception to sources of drinking water policy for municipal and domestic uses (formerly called a beneficial use exception), so drinking groundwater was not included in the HHRA.
- 3 If the total HI exceeds or equals the threshold of 1, values shown in parentheses in the HI column represent the highest target organ segregated.
- 4 Conservatively used to represent the recreational user in the future Regional Park area.

mammals. Ecological risk was evaluated in the upland habitat, which includes Subareas 1 through 5 and 7, and for the wetland habitat, which includes Subarea 6 only. Ecological receptors, including plants, benthic organisms (sediment-dwelling organisms), birds, mice, and other mammals may be exposed to chemicals in soil and sediment. The ERA results are presented in Table 2.

FEASIBILITY STUDY SUMMARY

The three subareas identified in the RI with potentially unacceptable risk were further evaluated in the FS (Figure 5). The risk drivers and receptors are:

Subarea 4 - Lead-impacted soil in the area southeast of Building A75 is a potential unacceptable risk to future commercial/industrial, and construction workers.

Subarea 5 - Lead-impacted soil near Building A17 is a potential unacceptable risk to future commercial/industrial workers, construction workers, recreational receptors, and ecological receptors.

Northern portion of Subarea 6 - Copper, lead, and zinc in sediment are a potential unacceptable risk to ecological receptors.

REMEDIAL ACTION OBJECTIVES

As part of the IA F1 FS, RAOs and preliminary RGs were developed for the soil or sediment in each area.

The RAOs for IA F1 are:

Surface Soil (less than 2 feet below ground surface)

- Protect human and ecological **receptors** by preventing exposure to lead in surface soils that exceed RGs in the Building A75 and Building A17 areas.
- Protect human receptors from exposure to **chemicals of concern (COCs)** by preventing residential use, construction of hospitals, certain schools or day care facilities in Subarea 4 and Subarea 5.
- Protect ecological receptors from exposure to COCs by maintaining the industrial conditions in portions of Subarea 5.

Subsurface Soil (0 to 10 feet below ground surface)

- Protect human receptors from exposure to COCs in subsurface soil by preventing residential use, construction of hospitals, certain schools or day care facilities at Subareas 4 and 5.

Surface Sediment for Subarea 6

- Protect ecological receptors by preventing exposure to copper, lead, or zinc in sediment that exceed RGs.

PRELIMINARY REMEDIATION GOALS

Preliminary RGs for areas requiring further action (Subareas 4, 5 and 6) were developed to meet the RAOs. The preliminary RGs were selected based on land use, receptors, and background soil and sediment concentrations as summarized in Table 3.

SUMMARY OF REMEDIAL ALTERNATIVES

Alternatives were considered to achieve RAOs to lessen or eliminate the risk posed by site soil and sediment. The majority of IA F1 does not pose an unacceptable risk to potential current or future receptors. ICs were evaluated to prevent sensitive land-use activities that may result in unacceptable risk to receptors. ICs are measures designed to prevent or limit exposure to hazardous substances remaining on-site or to ensure the effectiveness of a chosen remedy. ICs can include restrictions on excavation or future property use or other legally binding requirements to prevent ground disturbances on-site.

Active remedial alternatives were also evaluated for the three areas identified as having unacceptable risk for the future use (Figure 5). The Navy considered the following five remedial alternatives, broken down by site geography into Upland and Wetland Areas:

- *Alternative 1: No Action*

Upland Remedial Alternatives

- *Alternative U2: ICs and Asphalt Cap*



Figure 5. Subareas Requiring Remedial Action

Table 3. Preliminary Remediation Goals

Subarea	Site Use	Chemical	Preliminary RG Human Health Receptors (mg/kg) ¹	Preliminary RG Ecological Receptors (mg/kg)	Background Soil or Sediment Concentration (mg/kg)	Proposed Preliminary RG (mg/kg)
4 (Soil)	Mixed Industrial	lead	345.6	NA ²	59	345.6
5 (Soil)	Mixed Industrial	lead	345.6	NA ²	59	105.6
	Regional Park	lead	105.6	205	59	
6 (Sediment)	Open Space- Wetlands	copper	NA ³	49.2	120	120
		lead	105.6	45.5	59	59
		zinc	NA ³	200	230	230

Notes:

1 mg/kg = milligram per kilogram.

2 NA (not applicable) - Because pathway to receptors is incomplete.

3 NA - No unacceptable risk to receptors in these areas.

4 The blue-shaded column are the proposed RGs.

- *Alternative U3*: ICs, Excavation, and Off-Site Soil Disposal

Wetlands Remedial Alternatives

- *Alternative W2*: ICs, Excavation, and On-Site Sediment Relocation to Upland
- *Alternative W3*: ICs, Excavation, and Off-Site Sediment Disposal

Table 4 describes remedial alternatives evaluated in the FS. The Navy has identified Alternatives U3 and W3, shown in the blue shaded rows, as the preferred cleanup alternatives.

EVALUATION OF REMEDIAL ALTERNATIVES

The Navy evaluated each alternative against the first seven of the nine NCP criteria (Figure 6). The results of the IA F1 evaluation are summarized in Table 5. The last two NCP criteria (state acceptance and community acceptance) will be addressed through public comment and regulatory agency review.

The costs presented in Table 5 reflect the Navy's current estimate to implement each alternative.

SUMMARY OF THE PREFERRED ALTERNATIVES

The preferred remedies for IA F1 are Alternative U3 and Alternative W3: Institutional controls, excavation and off-site disposal of soil and sediment. These alternatives are preferred for the reasons summarized below:

- They provide protection to human health and the environment by removing contaminated soil and

sediment that pose risks to future receptors at Subareas 4, 5 and 6.

- They meet federal and state **applicable or relevant and appropriate requirements (ARARs)**.
- They provide long-term protection of the environment through permanent removal of contaminated soil and sediment.
- They would result in relatively minor short-term risks to the environment, community, and site workers.
- They would allow redevelopment of the site in a manner consistent with the City of Vallejo's 2008 Mare Island Specific Plan as amended.

A final decision will not be made until all comments are considered. Community acceptance will be evaluated after the public comment period for this PP/Draft RAP. The Navy will address any comments in a Responsiveness Summary presented in the ROD/Final RAP.

STATE OF CALIFORNIA LAWS

California Health and Safety Code

This PP meets applicable requirements for RAPs contained in California Health and Safety Code (HSC) Section (§) 25356.1 for hazardous substance release sites listed by DTSC pursuant to California Health and Safety Code § 25356. This PP serves as a draft RAP to fulfill the public notice and comment requirements of the California HSC, and the CERCLA ROD for IA FI will serve as the final RAP.

California Environmental Quality Act

At the conclusion of the public comment period for the

PP/Draft RAP, DTSC will prepare a California Environmental Quality Act (CEQA) Initial Study to evaluate potential impacts of the proposed project on public health and the environment. This will allow DTSC to ensure that the CEQA document incorporates any changes to the project resulting from public review and comment. The Initial Study will then be made available for review and comment during a future public comment period.

Nonbinding Allocation of Responsibility

California HSC § 25356.1(e) required DTSC to prepare a nonbinding allocation of responsibility among all identifiable potentially responsible parties. Based on the available information regarding the former MINS, DTSC has determined that the Navy is the only identifiable responsible party.

Table 4. Summary of Remedial Alternatives

Remedial Alternative	Components of Remedial Alternatives
Alternative 1: No Action	The No Action alternative is required by CERCLA to be evaluated for comparison purposes. Under this alternative, nothing is done to clean up the contamination, restrict land use, or limit contamination movement.
Alternative U2 for Upland Soil: ICs and Asphalt Cap	Alternative U2 includes installation of an asphalt cap of approximately 13,500 square feet over the contaminated areas. To ensure that human and ecological receptors are protected the cover must not be breached through trenching or excavation and must be designed to resist flooding. This alternative includes multiple ICs such as use restrictions on residences, certain schools, day care facilities and hospitals. Also included are ICs requiring inspections, maintenance and reporting as long as wastes remain on-site.
Alternative U3 for Upland Soil: ICs, Excavation, Off-Site Soil Disposal	Alternative U3 includes excavation of approximately 1,250 cubic yards of contaminated soil exceeding RG's and transporting it to a permitted off-site disposal facility. Following removal soil in excavated areas would be sampled to document the removal of soil exceeding the RGs. The excavation would then be backfilled with suitable fill and restored to preexcavation conditions. ICs for this alternative include restrictions of sensitive uses such as residences, certain schools, day cares and hospitals. ICs also include the requirement to prevent development of ecological habitat in Subarea 4 and the portion of Subarea 5 planned for industrial reuse. ICs for inspections and reporting will be required for compliance with the use and development of ecological habitat restrictions.
Alternative W2 for Wetland Sediment: ICs, Excavation, and On-Site Sediment Relocation to Upland	Alternative W2 includes excavation and relocation of approximately 3,600 cubic yards of sediment exceeding RGs from the wetlands to the uplands portion of IA F1. Sediment would be characterized prior to relocation to the uplands such that it meets upland RG criteria. Following removal, sediment in excavated areas would be sampled to document the removal of soil exceeding the RGs. The excavation would then be backfilled with suitable fill and restored to preexcavation conditions. ICs for this alternative would prevent use of the wetland area for residences, certain schools, day cares and hospitals. ICs for inspections and reporting will be required for compliance with the use restrictions.
Alternative W3 for Wetland Sediment: ICs, Excavation, and Off-Site Sediment Disposal	Alternative W3 includes excavation of approximately 3,600 cubic yards of soil exceeding RGs and transporting it to a permitted off-site disposal facility. Following removal, sediment in excavated areas would be sampled to document the removal of sediment exceeding the RGs. The excavation would then be backfilled with suitable fill and restored to preexcavation conditions. ICs for this alternative would prevent use of the wetland area for residences, certain schools, day cares and hospitals. ICs for inspections and reporting will be required for compliance with the use restrictions.

Note:

1 The preferred alternatives are indicated by blue shading.

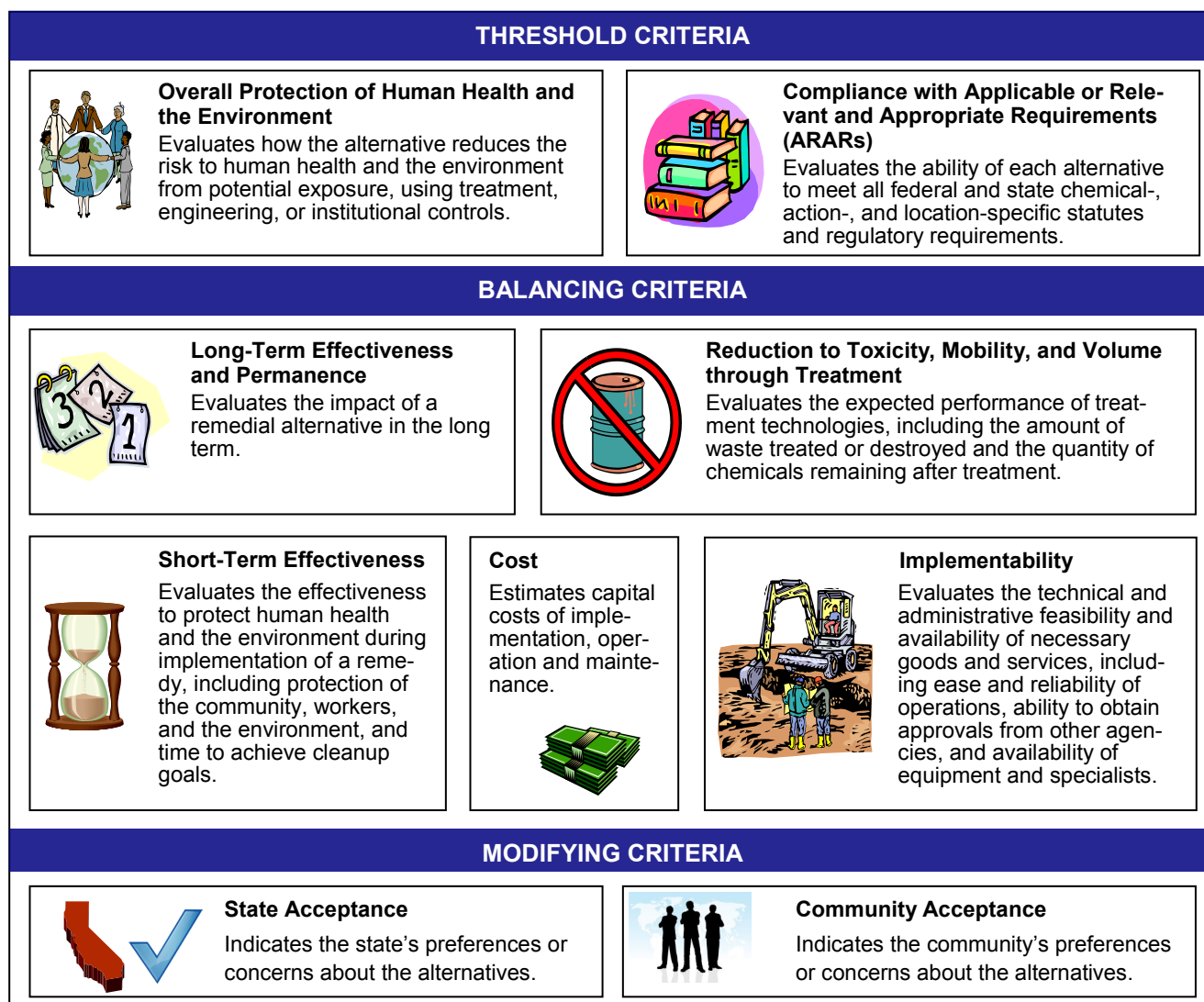


Figure 6. NCP Criteria for Comparison of Cleanup Alternatives

RCRA Solid Waste Management Units

Portions of Solid Waste Management Unit (SWMU) 93, the Storm Sewer System, SWMU 106, the Sanitary Sewer System, and SWMU 125, South End of the Island, were formerly located within the IA F1 boundaries under the historical Resource Conservation and Recovery Act (RCRA) permit for Mare Island. The portions of SWMUs 93, 106, and 125 located within IA F1 have been investigated under the CERCLA and petroleum programs. Once the final remedy for IA F1 is implemented, DTSC will issue a RCRA Corrective Action Complete Determination closing the portions of SWMUs 93, 106, and 125 within IA F1 and removing IA F1 from the facility permit boundaries. Therefore, this document also serves to fulfill the public notice and comment requirement of RCRA.

COMMUNITY PARTICIPATION - THE NEXT STEPS

Public comments on this PP/Draft RAP received during the period from September 13, 2017 through October 13, 2017, will be considered by the Navy, in consultation with the regulatory agencies, prior to selecting a final cleanup plan for this site. Responses to all significant comments will be addressed in a Responsiveness Summary, presented in the ROD/Final RAP. The ROD/Final RAP will formally document the selected cleanup plan for IA F1. Additional information on opportunities to comment on this PP/Draft RAP can be found on page 12.

A Public Notice will be posted in the local papers announcing when the IA F1 ROD/Final RAP is available to the public in the information repositories listed below.

The PP/Draft RAP may also be viewed online at the Navy website:

https://www.bracpmo.navy.mil/brac_bases/california/former_shipyard_mare_island.html.

Table 5. Ranking IA F1 Remedial Alternatives for NCP Criteria

Alternatives	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of Toxicity, Mobility, or Volume through treatment	Short-Term Effectiveness	Implementability	Total Cost (\$Million)	Overall Rating by Alternative
Alternative 1: No Action	Non-Protective	No	○	○	●	●	● (\$0)	○
Alternative U2: Institutional Controls and Asphalt Capping	Protective	Yes	◐	○	◐	●	◐ (\$1.60)	◐
Alternative U3: Institutional Controls, Excavation, and Off-Site Soil Disposal	Protective	Yes	●	○	◐	●	◐ (\$1.90)	◐
Alternative W2: Institutional Controls, Excavation, and On-Site Sediment Relocation to Upland	Protective	Yes	◐	○	◐	◐	◐ (\$2.79)	◐
Alternative W3: Institutional Controls, Excavation, and Off-Site Sediment Disposal	Protective	Yes	●	○	◐	◐	◐ (\$2.56)	◐

Legend:

- Poor
- ◐ Marginal
- ◑ Good
- Very Good
- Excellent

Notes:

1. For an explanation of the criterion see Figure 6.
2. State and community acceptance are not shown; and community acceptance will be assessed following the public review process.

Acronyms:

ARAR - Applicable or relevant and appropriate requirements
NCP - National Oil and Hazardous Substances Pollution Contingency Plan

INFORMATION REPOSITORIES

The John F. Kennedy Library provides public access to technical reports and other IR Program information that support this PP/Draft RAP. The Navy **administrative record (AR) file** is a collection of reports and historical documents used in the selection of cleanup or remedial alternatives.

John F. Kennedy Library
505 Santa Clara Street
Vallejo, California 94590

Library Hours:

Monday and Wednesday 10 a.m.-9 p.m.

Tuesday and Thursday 10 a.m.-6 p.m.

Friday and Saturday 10 a.m.-5 p.m.

Sunday 1-5 p.m.

Phone (866) 572-7587

Official Administrative Record Location:

Naval Facilities Engineering Command, Southwest
1220 Pacific Highway, Code EV33
Attn: Ms. Diane Silva, Administrative Records Coordinator
Naval Base San Diego Building 3519
San Diego, CA 92132-5190
Email: Diane.Silva@navy.mil

The Navy AR file hours are Monday through Friday 8:00 am to 5:00 pm. Please contact Ms. Silva to make an appointment.

Restoration Advisory Board

The Navy provides information on IA F1 to the public through public meetings, the AR file for the site, and notices published in the local newspapers. Restoration Advisory Board (RAB) meetings are generally held every other month on the fourth Thursday of the month and are open to the public. Please visit the Navy's web-site for more RAB information and current RAB meeting dates and times: https://www.bracpmo.navy.mil/brac_bases/california/former_shipyard_mare_island.html.

OTHER SITE DOCUMENTS

The Navy is issuing this PP/Draft RAP as part of its public participation responsibilities under Section 117(a) of CERCLA and Sections 300.430(f)(2) and (3) of the NCP to ensure that the public has the opportunity to comment. This PP/Draft RAP summarizes information detailed in documents, including the RI Report and FS Report, contained in the AR file for IA F1. The Navy encourages the public to review these documents to gain an understanding of the environmental investigations, removal actions, and risk assessments that have been conducted. Documents generated for IA F1 are listed on page 3 and are available for public review at the information repositories listed on this page.

Some documents may also be available online at the Navy website: <https://www.bracpmo.navy.mil> and at the DTSC website: <http://www.envirostor.dtsc.ca.gov/public>.

MULTI-AGENCY ENVIRONMENTAL TEAM CONCURS WITH IA F1 REMEDY

The BCT (BRAC Cleanup Team), composed of representatives from the Navy, DTSC, Regional Water Board, and EPA, was established with the primary goals of protecting human health and the environment, expediting the environmental cleanup, and coordinating the environmental investigations and cleanup at the installation.

The BCT obtains a consensus on issues regarding the installation's environmental activities and makes a concerted effort to integrate current and potential future uses into the cleanup decisions. The BCT has been involved in the review of all major documents and activities associated with IA F1. This review included the Removal Action Completion Reports and the RI Report and FS Report for IA F1, which included detailed risk assessments, an evaluation of the effectiveness of the remedial alternatives for IA F1, and documentation that these alternatives meet the NCP evaluation criteria.

Based on reviews and discussions of key documents and activities, the BCT recommends Alternatives U3 and W3, ICs, Excavation and Off-site Disposal.

For further information on the environmental program at Mare Island or the PP/Draft RAP please contact one of the following representatives:

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Phone (916) 255-3315
Fax (916) 255-3654
Jesus.Cruz@dtsc.ca.gov

HOW DO YOU PROVIDE INPUT TO THE NAVY?

There are two ways to provide comments during the public comment period from September 13, 2017 until October 13, 2017:

- Offer oral comments during the public meeting;
or
- Provide written comments by mail, fax, or email to the Navy no later than **October 13, 2017** (see contact information below). A mail-in comment form is provided as pages 13 and 14.

The public meeting will be held on **September 28, 2017, 7:00 pm**, at the Mare Island Conference Center, Vallejo, California. Navy and DTSC representatives will provide information on the environmental investigations, completed removal actions, and remedial alternatives for IA F1. You will have an opportunity to formally comment on the remedial alternatives summarized in this PP/Draft RAP during that meeting.

Additionally, written comments can be sent to:

BRAC Program Management Office West
Attn: Ms. Janet Lear
BRAC Environmental Coordinator
33000 Nixie Way
Bldg. 50, 2nd Floor
San Diego, California 92147
Janet.Lear@navy.mil



FORMER MARE ISLAND NAVAL SHIPYARD

Investigation Area F1

PUBLIC MEETING

September 28, 2017

7:00 PM

Mare Island Conference Center

375 G Street
Vallejo, California

Proposed Plan / Draft Remedial Action Plan - Comment Form

The public comment period for the Proposed Plan/Draft Remedial Action Plan (PP/Draft RAP) for IA F1 at Mare Island, Vallejo, California is from September 13, 2017 to October 13, 2017. A public meeting to present the Proposed Plan/Draft RAP will be held at the Mare Island Conference Center in Vallejo, California, on **September 18, 2017 at 7:00pm**. You may provide your comments verbally at the public meeting where your comments will be recorded by a court reporter. Alternatively, you may provide written comments in the space provided below or on your own stationery. **All written comments must be postmarked no later than October 13, 2017.** After completing your comments and your contact information, please mail this form to the address provided on the reverse side or submit this form to a Navy representative at the public meeting.

Comments are also being accepted by e-mail; please e-mail messages to Ms. Janet Lear at **Janet.Lear@navy.mil**.

Name: _____

Representing: _____

Phone Number (optional) : _____

E-mail Address (optional) : _____

Address (optional) : _____

Please check the appropriate box if you would like to be added or removed from the Navy's Environmental Mailing List for Mare Island: ☐ Add me ☐ Remove me

Comments

CUT ALONG DASHED LINE

FOLD ALONG DASHED LINE

Your Return Address:

Place
Postage
Here

Navy BRAC Program Management Office West

Attn: Ms. Janet Lear

BRAC Environmental Coordinator

33000 Nixie Way

Bldg. 50, 2nd Floor

San Diego, California 92147

GLOSSARY OF TECHNICAL TERMS

Administrative record (AR) file is a collection of reports and historical documents used in the selection of remedial alternatives or environmental management activities.

Applicable or relevant and appropriate requirements (ARARs) are the Federal and State environmental laws and regulations that must be followed for the selected remedial alternative. These requirements may vary among sites and alternatives.

Chemicals of ecological concern (COECs) are site-related chemicals that pose a risk to ecological receptors.

Chemicals of concern (COCs) are site-related chemicals that pose a risk to site receptors.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) also known as Superfund, is a federal law that regulates environmental investigation and cleanup of sites identified as potentially posing a risk to human health and/or the environment.

Ecological risk assessment (ERA) is an evaluation of the likelihood that ecological receptors (plants and animals) exposed to contaminants at a site would suffer harm.

Feasibility Study (FS) is a study that identifies and evaluates remedial technologies to develop remedial alternatives for a site based on criteria mandated in the NCP.

Hazard Index (HI) is the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways. The HI is calculated separately for chronic, sub-chronic, and shorter-duration exposures.

Human health risk assessment (HHRA) is an evaluation of the likelihood that humans exposed to contaminants at a site would suffer harm.

Institutional controls (ICs) are non-engineering mechanisms established to limit human and ecological receptor exposure to contamination. These mechanisms may include deed restrictions, covenants, easements, laws and regulations.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is the federal regulation that guides determination of the sites to be corrected under both the Superfund program and the program to prevent or control spills into surface waters or elsewhere.

Polycyclic aromatic hydrocarbons (PAHs) are a group of more than 100 different chemicals made up of one or more fused carbon rings. These compounds are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances.

Polychlorinated biphenyl (PCB) aroclors are a group of toxic, persistent chemicals that were used in electrical transformers and capacitors for insulating purposes, and in gas pipeline systems as lubricant. The sale and new use of these chemicals were banned by law in 1979.

Proposed Plan (PP)/Draft Remedial Action Plan (RAP) is a document that reviews the remedial alternatives presented in the FS, summarizes the recommended remedial action, explains the reasons for recommending the action and solicits comments from the community. The RAP is required under HSC Section 25356.1 for sites that are not listed on the Superfund National Priorities List, such as Mare Island. A Draft RAP is the California HSC equivalent of the Navy's Proposed Plan.

Receptors are humans, animals, and plants that may come in contact with site contaminants.

Record of Decision (ROD)/Final Remedial Action Plan (RAP) is a decision document that identifies the selected remedial alternative to be implemented at a specific site. The ROD/RAP is based on information and technical analysis generated during the RI/FS and consideration of public comments received throughout the process and in response to the PP/Draft RAP. A Final RAP is the California HSC equivalent of the Navy's ROD.

Remedial action (RA) is a general term used to describe technologies used to contain, remove, or treat hazardous wastes to protect human health and/or the environment.

Remedial action objectives (RAOs) are goals established for the protection of human health and the environment.

Remedial Investigation (RI) is a study that identifies the nature and extent of potential contaminants at a site and assesses risk to human health and ecological receptors.

Semi-volatile organic compounds (SVOCs) are organic (carbon-containing) compounds that volatilize slowly at standard temperature.

Time-critical removal action (TCRA) is an action taken to clean up or remove released hazardous substances or substances that might pose a threat of a release.

Total petroleum hydrocarbon (TPH) is a term used to describe a large family of several hundred chemical compounds that originally come from crude oil.

Volatile organic compounds (VOCs) make up a general category of organic (carbon-containing) compounds that evaporate easily at room temperature. VOCs are commonly used for degreasing, paint stripping, and other industrial operations.



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San Diego, California 92147

INVITATION TO COMMENT

**On the Proposed Remedial Action for
Investigation Area F1,
Former Mare Island Naval Shipyard**

See details inside.

IMPORTANT DATES TO REMEMBER

PUBLIC COMMENT PERIOD: PUBLIC MEETING:

September 13, 2017 through
October 13, 2017

September 28, 2017 at 7:00 pm
Mare Island Conference Center
375 G Street
Vallejo, California